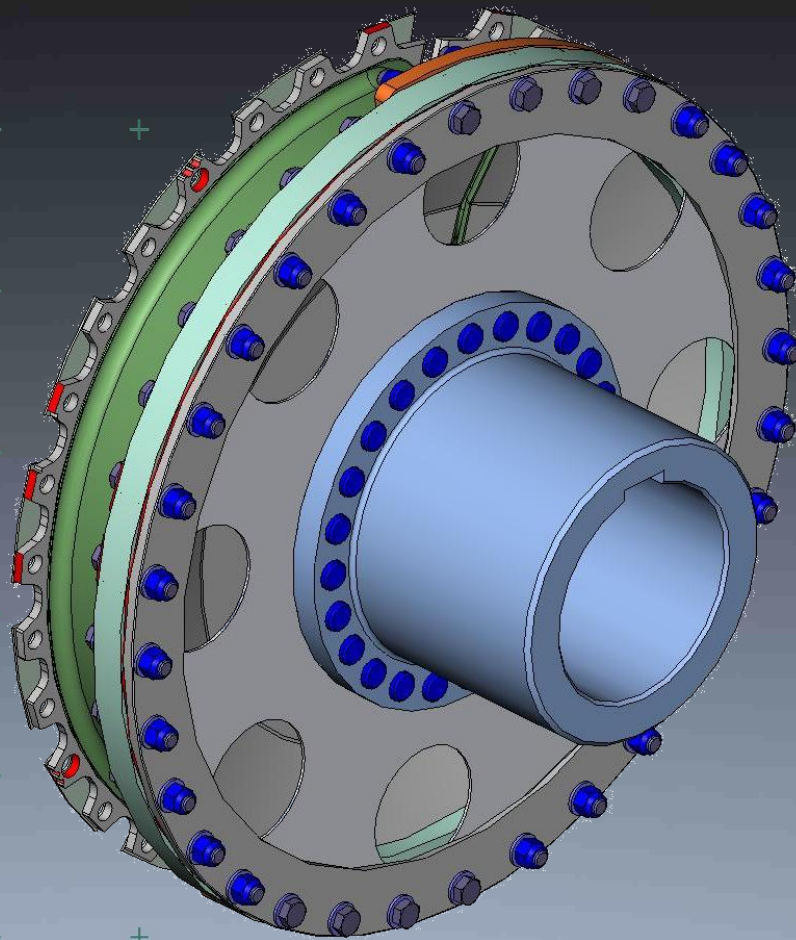


CENTAX-SEC-G 200  
Assembly and operating instructions  
CX-276...286-GFS1  
M040-00014-EN  
Rev. 1



Power Transmission  
Leading by innovation



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## **1 General remarks**

These assembly and operating instructions form a constituent part of the coupling delivery and must be kept in an easily accessible place at all times.

CENTA products are developed and produced to quality standard DIN EN ISO 9001:2000.

In the interests of further development, CENTA reserves the right to make technical changes.



### **IMPORTANT**

CENTA is unable to accept liability for damage and operating faults caused by failure to observe the operating instructions.

These operating instructions are protected under copyright to CENTA Antriebe Kirschey GmbH.

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## 2 Safety

The purpose of these operating instructions is to enable users to:

- use the coupling safely and correctly
- maximize efficiency
- ensure that care and maintenance are carried out correctly

For this reason, these operating instructions must be thoroughly read and understood prior to work on and with the coupling.

### WARNING

**Injury and material damage can occur as a result of:**

- Failure to adhere to the safety and accident prevention regulations valid at the relevant installation site

The safety and accident prevention regulations valid at the installation site in question must be adhered to when performing any of the tasks described in these operating instructions.

### 2.1 Safety remarks

In these operating instructions, safety remarks are indicated by a pictogram and a signal word.

#### 2.1.1 Signal words

The following signal words are used in the safety remarks:

**DANGER**

Denotes the immediate threat of danger.  
If not prevented, fatal or extremely serious injuries can result.

**WARNING**

Denotes a potentially dangerous situation.  
If not prevented, fatal or extremely serious injuries can result.

**CAUTION**

Denotes a potentially dangerous situation.  
If not prevented, minor injuries and/damage to property may result.

**IMPORTANT**

Denotes application tips and particularly useful information. This is not a signal word denoting a dangerous or damaging situation.

### 2.1.2 Pictograms

Possible pictograms in the safety precautions:



Warning of a hazardous area



Do not switch



Use protective gloves



Use protective goggles

### 2.2 Qualification of deployed personnel

All the work described in these operating instructions may only be performed by authorized persons with adequate training and instruction.

#### WARNING



**Injury and material damage can occur as a result of:**

- Work at the coupling which is not described in these instructions
- Only carry out work which is described in these operating instructions.

### 2.3 Intended application

#### WARNING



**Injury and material damage can occur as a result of:**

- Application not in compliance with the intended use

The couplings are intended exclusively for use in accordance with the relevant design. They may only be used under the specified conditions.

**WARNING**



**Injuries can occur as a result of:**

- Contact with rotating parts

Shield the coupling in accordance with the applicable accident prevention regulations with an enclosure.

**Exception:**

The coupling is encased by the driving and driven units.

**The scope of delivery provided by CENTA does not include a protective enclosure.**

This enclosure must fulfil the following criteria:

- Provide protection against persons gaining access to rotating parts
- Restrain any rotating parts which may be work loose
- Guarantee sufficient ventilation for the coupling

This enclosure must be made of stable steel components. In order to ensure adequate ventilation for the coupling, the enclosure must be fitted with regular openings. For safety reasons, these openings must not exceed the dimensions outlined in table 2-1.

<b>Component</b>	<b>Circular openings [mm]</b>	<b>Rectangular openings [mm]</b>
Top of the enclosure	Ø 8	□ 8
Side elements of the enclosure	Ø 8	□ 8

*Table 2-1 Shape and size of ventilation holes*

The enclosures must be positioned a minimum of 15 mm distant from rotating parts. The enclosure must be electrically conductive and be included in the equipotential bonding.

Before commencing long-term operation, the plant must successfully complete a test run.



**2.4 Application not in compliance with the intended use****WARNING****Injury and material damage can occur as a result of:**

- Inadmissibly high torque
- Inadmissibly high or low speeds
- Exceeding the specified ambient temperature
- Inadmissible ambient medium
- Inadmissible coupling enclosure
- Exceeding the admissible overall misalignment values

Only use the coupling for the specified application.

CENTA bears no liability for damage resulting from application not in compliance with the intended use of the equipment.

Should there be a change of plant parameters, the coupling design must be reviewed by CENTA (address see chapter 1).



### 3 Delivery, transport, storage and disposal

#### 3.1 Delivery

After delivery, the coupling:

- must be checked for completeness and correctness of the delivery.
- must be examined for possible transport damage (which must be reported immediately to the carrier).



#### 3.2 Transport

<b>CAUTION</b>	
	<p><b>Injury and material damage can occur as a result of:</b></p> <ul style="list-style-type: none"> <li>▪ Incorrect transportation of couplings</li> </ul> <p>Ensure that the coupling is correctly transported.</p>
<b>CAUTION</b>	
	<p><b>Material damage to coupling components can occur as a result of:</b></p> <ul style="list-style-type: none"> <li>▪ Contact with sharp-edged objects</li> </ul> <p>Protect coupling components for transportation. Only hoist coupling components with nylon belts or ropes. Always cushion parts when supporting them from below.</p>

Following transportation damage:

- Check the coupling carefully for damage.
- Consult the manufacturer (Address see chapter 1).

#### 3.3 Storage

<b>CAUTION</b>	
	<p><b>Material damage to elastic elements and rubber parts can occur as a result of:</b></p> <ul style="list-style-type: none"> <li>▪ Incorrect storage</li> </ul> <p>These parts must be stored laid flat and so they cannot distort, and protected from ozone, heat, light, moisture and solvents.</p>
 <b>IMPORTANT</b>	
<p>Rubber parts are marked where possible with their production date. From this date, they may only be stored for a maximum of 5 years.</p>	

**3.3.1 Storage location**

Requirements imposed on the storage location:


- Moderately ventilated and low in dust
- Dry (max. 65% humidity)
- Temperature stabilized (-10°C to +25°C)
- Free of ozone-producing devices such as light sources and electric motors
- Free of UV light sources and direct sunlight
- Do not store solvents and disinfectants, fuels or lubricants, acids, chemicals etc. in the same location

For more details, refer to DIN 7716.

**3.3.2 Storage of couplings / flexible elements**

- Unpack the parts.
- Check the packaging for damage. Replace if necessary.
- Check that the wax protection on steel components is intact. If necessary, patch or renew.
- Package the parts (for prolonged periods of storage, enclose desiccant and weld into film).
- Place the parts into storage.

**3.4 Disposal**

<b>RECYCLING</b>	
	Ensure safe, environmentally responsible disposal of operating supplies and exchange parts. For this, locally provided recycling facilities and regulations must be utilized.

For disposal, the coupling parts must be separated where possible and sorted according to material type.

## **4 Technical description**

### **4.1 Characteristics**

CENTAX-SEC series G couplings have the following excellent characteristics:

- Sufficient elasticity to take up axial, radial and angular misalignment, movements, installation errors and heat expansion in units with rigid or elastic bearings.
- High torsional elasticity with linear curve. One or more elements with different shore hardnesses can be used in series, in which case the necessary torsional rigidity for optimal vibration behaviour of the unit can be ensured.
- All sides of the rubber element are ventilated all round in order to guarantee good heat dissipation and high heat capacity.
- High dynamic capacity and balancing quality.
- Simple, cost-effective design with compact dimensions, low weight and mass moment of inertia.
- Wear free, low maintenance, simple to install. In all the series, the elements can be replaced radially – without having to move the connected machine components. Suitable dimensioning of bolts and clamping forces for torque transmission by friction.
- Available with or without failsafe device.

### **4.2 Specifications**

The specifications can be found in the catalogue and the dimensions in the installation drawing.

## 5 Alignment of the units being connected

### IMPORTANT

- The units should be aligned during assembly.
- The overall misalignment is composed of the misalignment and the operating misalignment. The permissible overall misalignment values can be found in the catalogue and must not be exceeded.  
Align the units that are to be connected as accurately as possible. In this way, a long service life for the coupling and maximum operating misalignment values can be achieved.  
After completion of assembly, check the alignment of the coupling again and if necessary correct.

### 5.1 Axial alignment

Determine the axial misalignment (see Fig. 5-1).

- Take installation length **L** from the installation drawing.
- Align the units (installation dimension =  **$L \pm \Delta K_A$** ).

Permissible axial alignment tolerance:

**$\Delta K_A$**  max = 0.5 mm

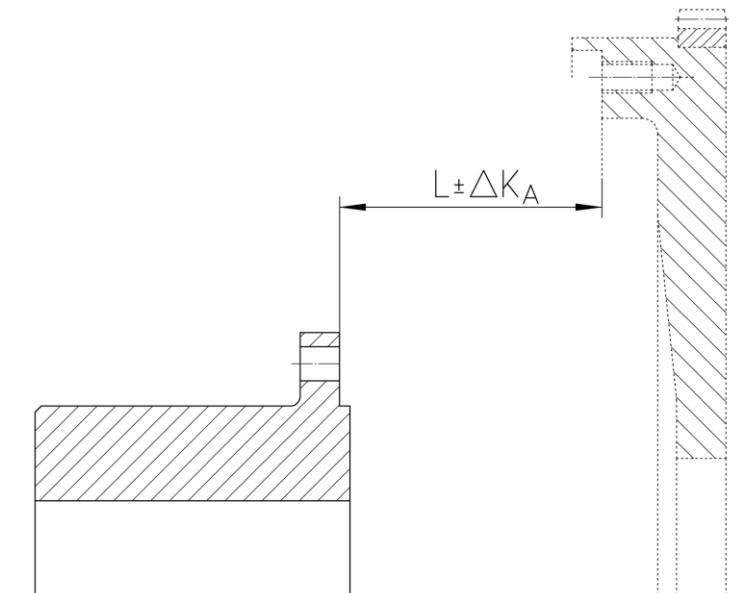


Fig. 5-1 Axial misalignment

## 5.2 Radial alignment

### CAUTION



**Material damage to elastically installed motors can occur as a result of:**

- Disregard during alignment of the extent by which the motor bearing settles

During vertical alignment, take into account the extent by which the motor bearing settles. Please enquire about specifications for the degree of settling from the motor manufacturer or motor bearing manufacturer.

Measure the radial misalignment with a dial gauge (see Fig. 5-2).

- Attach the dial gauge to the hub.
- Set the sensor of the dial gauge radially against the centering.
- Turn the hub with dial gauge and flywheel slowly by 360°.
- Align the units (calculated deviation  $\leq \Delta K_{R \max}$ ).

The permissible radial alignment tolerance  $\Delta K_{R \max}$  can be found in the following table.

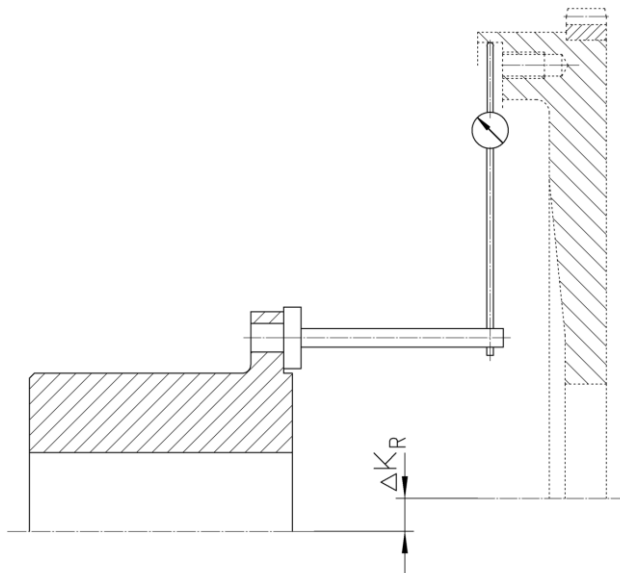


Fig. 5-2 Radial misalignment



Size	Shore hardness [Shore A]	$\Delta K_{R \max}$ [mm]
276	50 / 60	$\pm 0.83$
	70	$\pm 0.26$
277	50 / 60	$\pm 0.90$
	70	$\pm 0.30$
279	50 / 60	$\pm 1.05$
	70	$\pm 0.38$
281	50 / 60	$\pm 1.05$
	70	$\pm 0.38$
283	50 / 60	$\pm 1.13$
	70	$\pm 0.38$
284	50 / 60	$\pm 1.20$
	70	$\pm 0.38$
286	50 / 60	$\pm 1.20$
	70	$\pm 0.38$

Table 5-1 Permissible radial alignment

### 5.3 Angular alignment

Measure the angular misalignment with a dial gauge (see Fig. 5-3).

- Attach the dial gauge to the hub.
- Position the sensor of the dial gauge radially against flat surface at a distance R.
- Turn the hub with dial gauge and flywheel slowly by 360°.

The maximum dial gauge deflection must not exceed the value  $2xS_w$  at any point. The permissible tolerance  $S_{w \max}$  should be taken from the table below.

- Align the units (calculated deviation  $\leq \Delta K_{W \max}$ ).

Permissible angular alignment tolerance:

$$\Delta K_{W \max} = 0.05^\circ$$

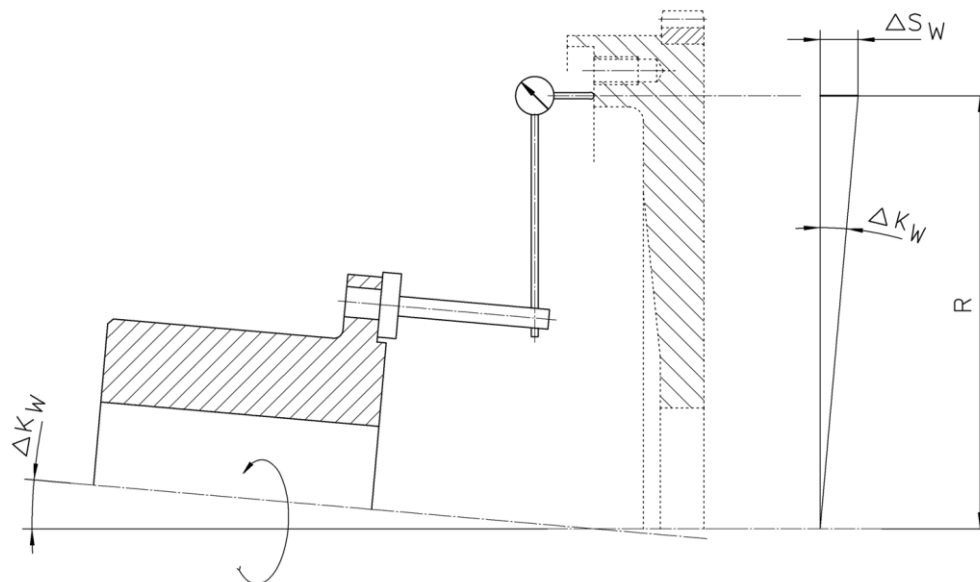


Fig. 5-3 Angular misalignment










Size	R [mm]	S <sub>w max</sub> [mm]
276	340	0,30
277	365	0,32
279	395	0,34
281	425	0,37
283	460	0,40
284	495	0,43
286	580	0,51

Table 5-2 Permissible angular alignment tolerance

## 6 Mounting

### 6.1 General assembly instructions

Any work method which impairs the safety of the coupling is prohibited.  
The user undertakes to notify the manufacturer immediately of any changes occurring at the coupling which could impair safety (address see chapter 1).

<b>WARNING</b>	
	<p><b>Injuries can occur as a result of:</b></p> <ul style="list-style-type: none"> <li>▪ Contact with rotating parts</li> </ul> <p>Before starting work at the coupling, switch off the plant and secure against unintentional start-up.</p>
<b>WARNING</b>	
	<p><b>Injury and material damage can occur as a result of:</b></p> <ul style="list-style-type: none"> <li>▪ Assembly of the coupling in the wrong sequence</li> </ul> <p>Only ever assemble the coupling in the described sequence.</p>
<b>WARNING</b>	
	<p><b>Injury and material damage can occur as a result of:</b></p> <ul style="list-style-type: none"> <li>▪ Falling coupling components</li> </ul> <p>Secure coupling components against falling to the floor.</p>
<b>CAUTION</b>	
	<p><b>Material damage to coupling components can occur as a result of:</b></p> <ul style="list-style-type: none"> <li>▪ Contact with sharp-edged objects</li> </ul> <p>Protect coupling components for transportation. Only hoist coupling components with nylon belts or ropes. Always cushion parts when supporting them from below.</p>
<b>CAUTION</b>	
	<p><b>Material damage can occur as a result of:</b></p> <ul style="list-style-type: none"> <li>▪ Soiled joint surfaces</li> </ul> <p>The surfaces that are to be joined must be free of dirt, preservatives and lubricants.</p>

**CAUTION**

**Material damage to coupling components can occur as a result of:**

- Anaerobic adhesives (e.g. Loctite) used for screw locking

This type of screw locking medium may not be in contact with rubber parts.

**IMPORTANT**

- Screw preparation and tightening torque levels in accordance with CENTA data sheet D013-013 (see chapter 11.1).
- Use suitable lifting devices for assembly.
- The following assembly stages are described for coupling CX-283-GFS1.
- Part illustration and marking may differ slightly from installation drawing and delivery state.

## 6.2 Mounting the hub

- Mount the hub as appropriate for the type supplied (see installation drawing).
  - Mounting the hub with feather key, see chapter 6.2.1 .
  - Mounting the hub with conical oil interference fit, see chapter 6.2.2 .

### 6.2.1 Mounting the hub with feather key

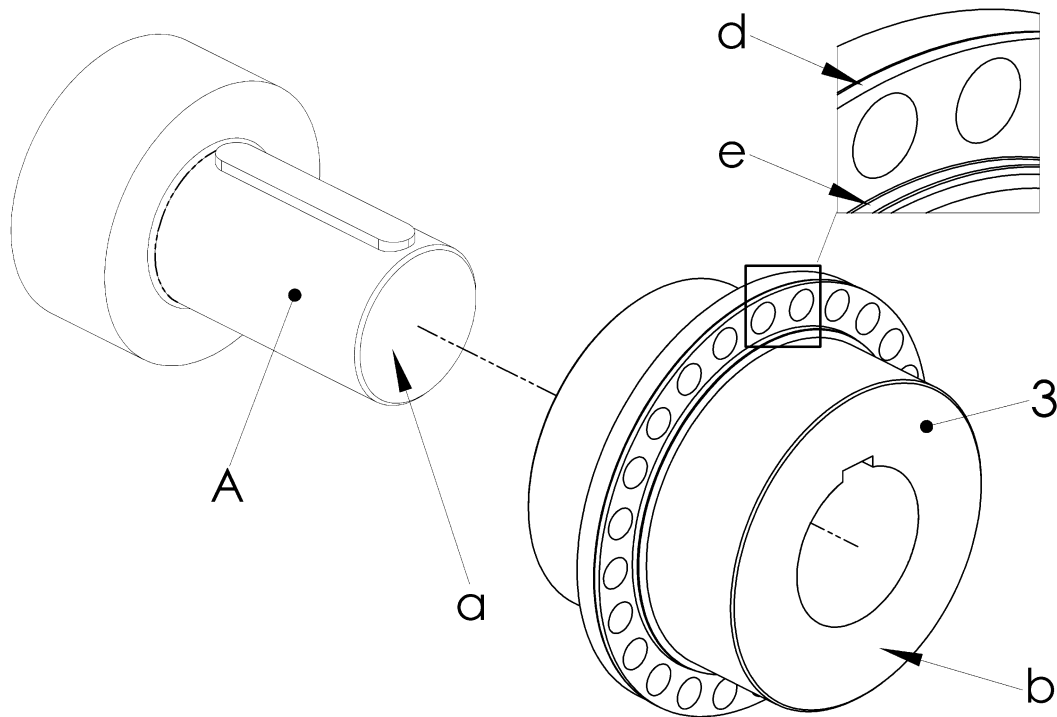


Fig. 6-1 Mounting the hub with feather key

Item	Info	Designation	Remark
3		Hub	
A		Shaft	Customer part
	a	Face of shaft	
	b	Face of hub	
	d	Centring for membrane	
	e	Centring for locking ring	

**CAUTION****Material damage can occur as a result of:**

- Incorrect heating of the hubs/flange hubs

Heat the hubs/flange hubs steadily in an oil bath, a fan oven, on an electric hot plate, either inductive or with a flame (ring burner).

**CAUTION****Injuries can occur as a result of:**

- Hot coupling components

Use suitable protective gloves.

- Heat the hub (3) to a temperature of 170° - 200°C.
- Push the hub (3) onto the shaft (A).  
The centrings (d and e) must be directed to the flywheel.

**IMPORTANT**

Face of shaft must not protrude to face of hub. Otherwise radial replacement of other coupling parts is not guaranteed.

**CAUTION****Material damage can occur as a result of:**

- Hot hubs/flange hubs

Before further mounting of hubs/flange hubs, allow them to cool to ambient temperature.

**6.2.2 Mounting the hub with conical oil interference fit****WARNING****Injury and material damage can occur as a result of:**

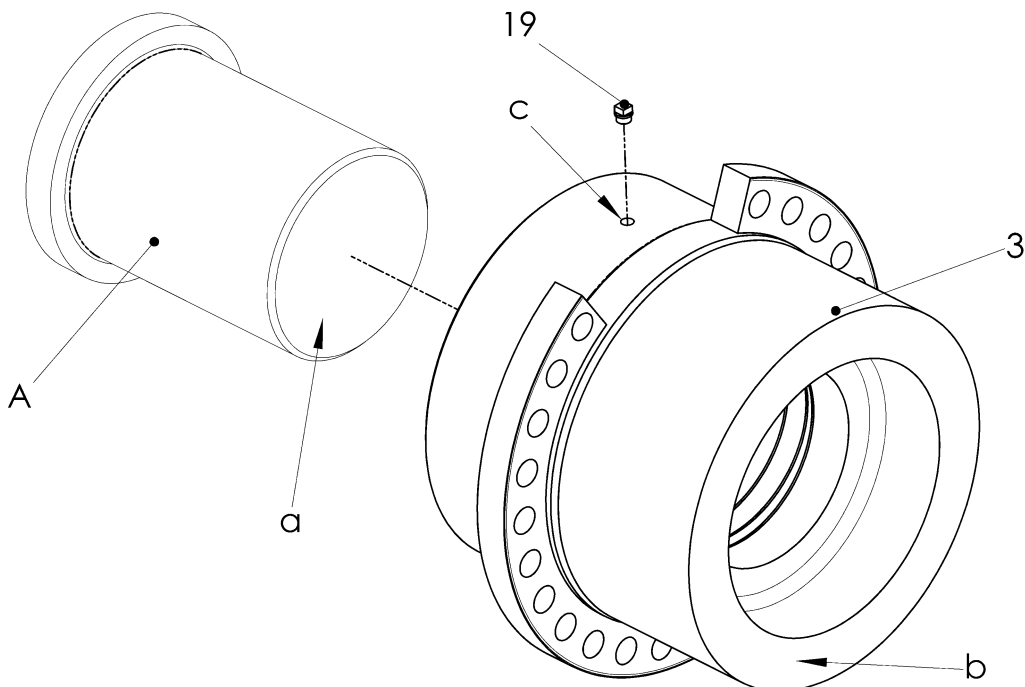
- Non-compliance with the operating instructions for the hydraulic pumps

Before carrying out work with the hydraulic pumps, do not fail to read their operating instructions. Only ever work with hydraulic pumps as described in their operating instructions.

**WARNING****Injury and material damage can occur as a result of:**

- Hydraulic fluid spraying out

Use protective goggles.



*Fig. 6-2 Mounting the hub with conical oil interference fit*

Item	Info	Designation	Remark
3		Hub	
19		Screw plug	G $\frac{1}{4}$ or G $\frac{3}{4}$ see installation drawing
A		Shaft	Customer part
	a	Face of shaft	
	b	Face of hub	
	c	Thread	G $\frac{1}{4}$ or G $\frac{3}{4}$ see installation drawing


**IMPORTANT**

We recommend the following mounting fluids:

- For mounting:  
Oil with a viscosity 300 mm<sup>2</sup>/s at 20°C, e.g. SKF LHM300
- For dismantling:  
Oil with a viscosity 900 mm<sup>2</sup>/s at 20°C, e.g. SKF LHDF900

- Lightly oil the cone of the shaft (A).
- Push the hub (3) onto the shaft (A).
- Remove the screw plug (19) from the hub (3).
- Connect the pump for expanding the hub (3) to the thread G $\frac{1}{4}$  or G $\frac{3}{4}$  (c).
- Screw the pump for pushing on the hub to the shaft.
- Build up the oil pressure for pushing on the hub.

**WARNING**

**Material damage can occur as a result of:**

- Too fast increase of the expanding pressure in the hub
- The increase of the expanding pressure may not exceed **35 bar/minute**.

**WARNING**

**Material damage can occur as a result of:**

- Insufficient expanding pressure in the hub
- If the expanding pressure is too low, the necessary pushing pressure is too high.

- Slowly build up the oil pressure for expanding the hub.
- Build up the oil pressure alternately until the lift path (p up) of the hub (3) is reached (for p up see installation drawing).
- Decrease the oil pressure for expanding the hub.
- Remove the pump for expanding the hub from the hub (3).
- Maintain the oil pressure for pushing on the hub for one hour.
- Decrease the oil pressure for pushing on the hub.
- Remove the pump for pushing on the hub from the shaft.
- Turn the hub (3), allow the oil to run out of the thread G $\frac{1}{4}$  or G $\frac{3}{4}$  (c) and dispose of it correctly.
- Screw the screw plug (19) into the hub (3).

 <b>IMPORTANT</b>
--

Do not place a load on the hub for 24 hours.
--

 <b>IMPORTANT</b>
---

Face of shaft must not protrude to face of hub. Otherwise radial replacement of other coupling parts is not guaranteed.
---

### 6.3 Aligning the units

- Align the units to be connected (see chapter 5).



## 6.4 Mounting the membrane

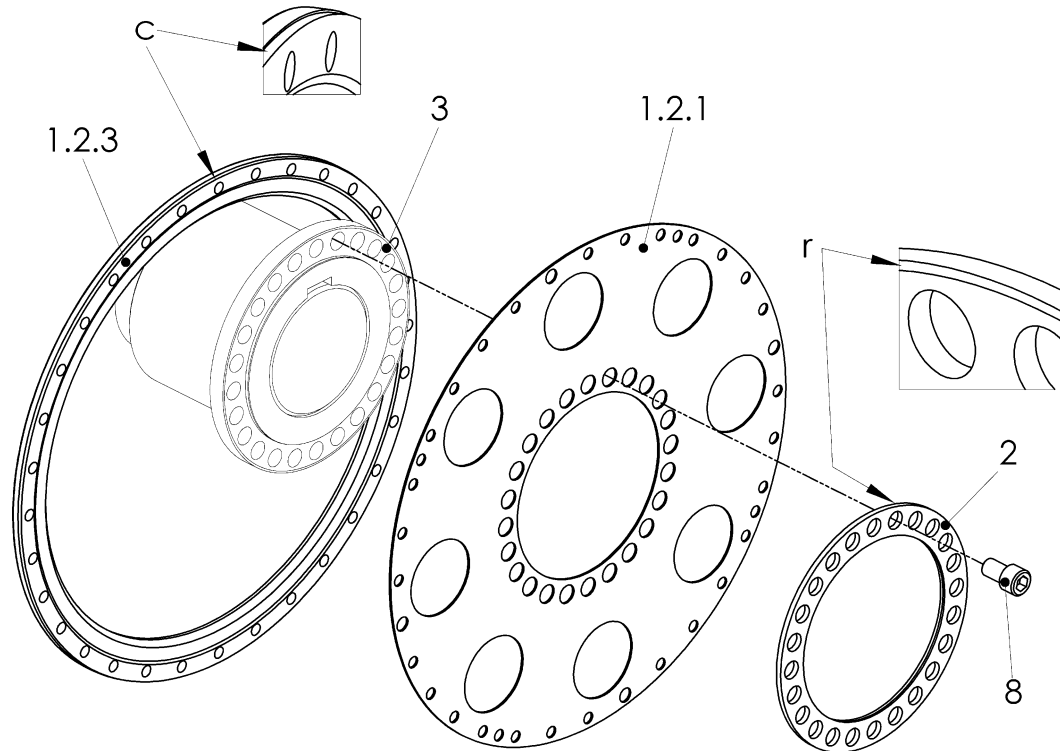


Fig. 6-3 Mounting the membrane

Item	Info	Designation	Remark
1.2.1		Membrane	
1.2.3		Ring	
2		Ring	
3		Hub	
8		Screw ISO4762-10.9	
	c	Centring	
	r	Radius	

- Place the ring (1.2.3) onto the hub (3).  
The centring (c) must point to the flywheel.
- Push the membrane (1.2.1) onto the centring of the hub (3).
- Push the ring (2) onto the centring of the hub (A).  
The radius (r) of the ring (2) must be on the side of the membrane (1.2.1).
- Screw the ring (2) and the membrane (1.2.1) to the hub (3) using the screws (8).

## 6.5 Fixing the ring to the membrane

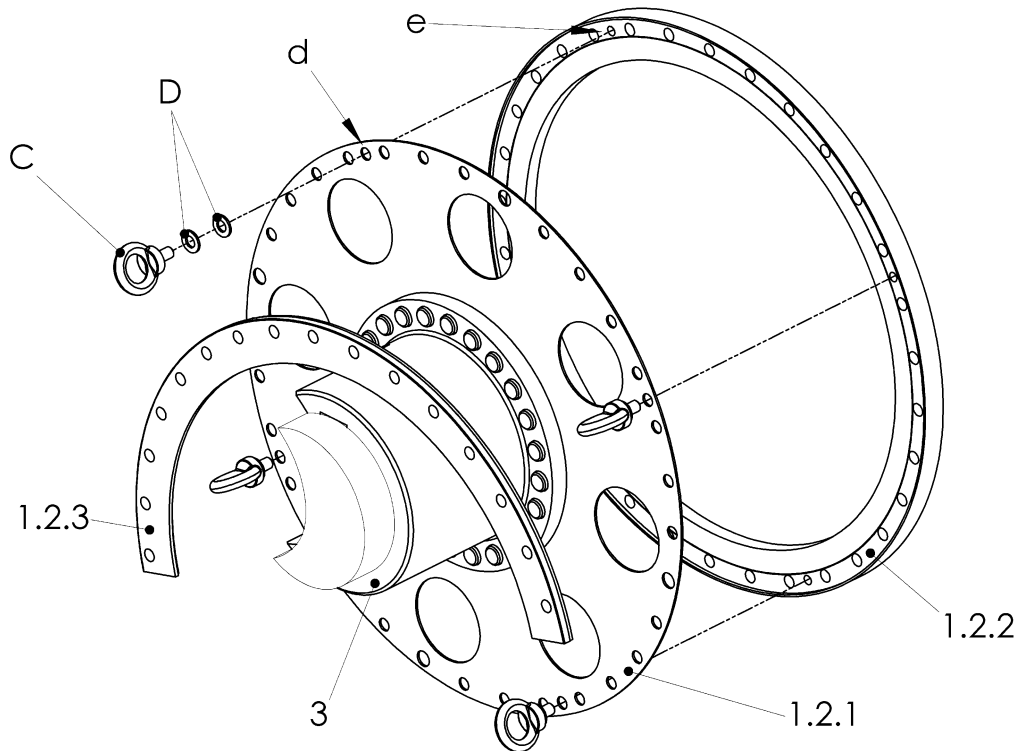
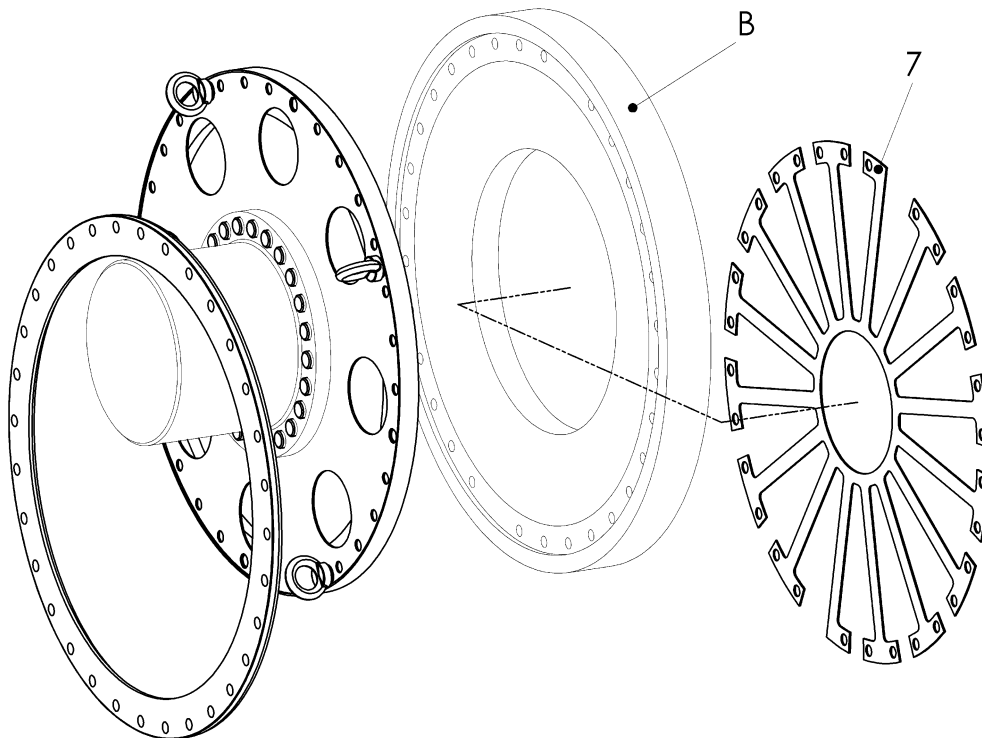


Fig. 6-4 Fixing the ring to the membrane

Item	Info	Designation	Remark
1.2.1		Membrane	
1.2.2		Ring	
1.2.3		Ring	
3		Hub	
C		Lifting eye bolt DIN580	No scope of supply
D		Washer	2 pc. per Lifting eye bolt; No scope of supply
	d	Drilling	In membrane (1.2.1)
	e	Thread	In ring (1.2.2)

- Push the ring (1.2.2) onto the centring of the membrane (1.2.1).
- Turn the ring (1.2.2) until the drilling (d) and the thread (e) are aligned (4x90°).
- Prepare the lifting eye bolts (C): Push two washers (D) onto the thread of each.
- Screw the membrane (1.2.1) to the ring (1.2.2) using the lifting eye bolts (C; 4x90°).

## 6.6 Positioning the ventilation plate



*Fig. 6-5 Positioning the ventilation plate*

Item	Info	Designation	Remark
7		Ventilation plate	
B		Flywheel	Customer part

- Push the ventilation plate (7) into the centring of the flywheel (B).

## 6.7 Positioning the rubber elements

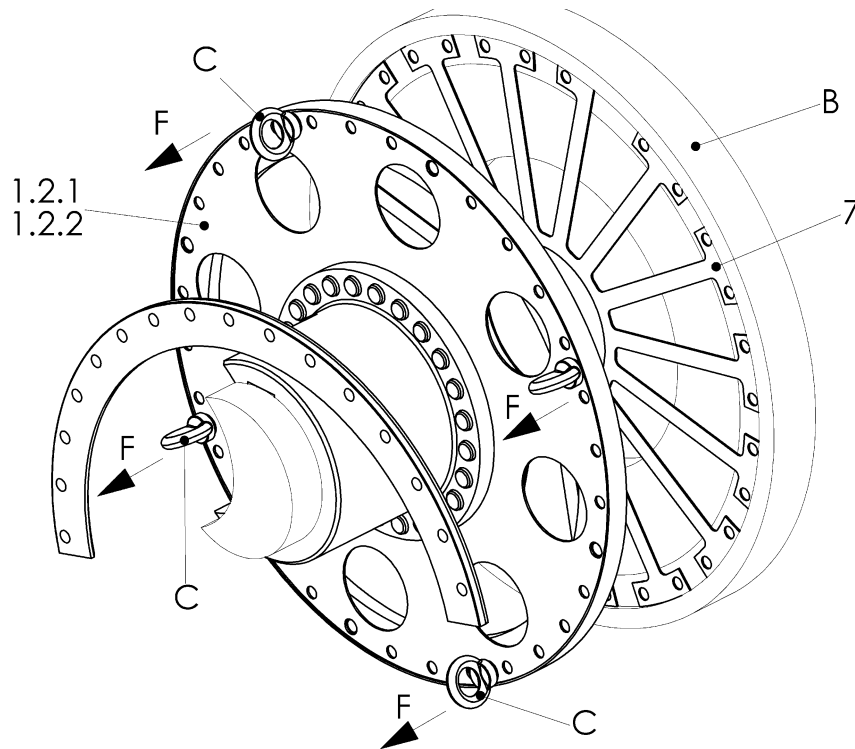


Fig. 6-6 Pulling the membrane backwards

Item	Info	Designation	Remark
1.2.1		Membrane	
1.2.2		Ring	
7		Ventilation plate	
B		Flywheel	Customer part
C		Lifting eye bolt DIN580	
F		Force in tensile direction	

- Using the lifting eye bolts (C) pull the membrane (1.2.1) and the ring (1.2.2) approx. 10 – 15 mm towards the illustrated direction (F) and keep this position.

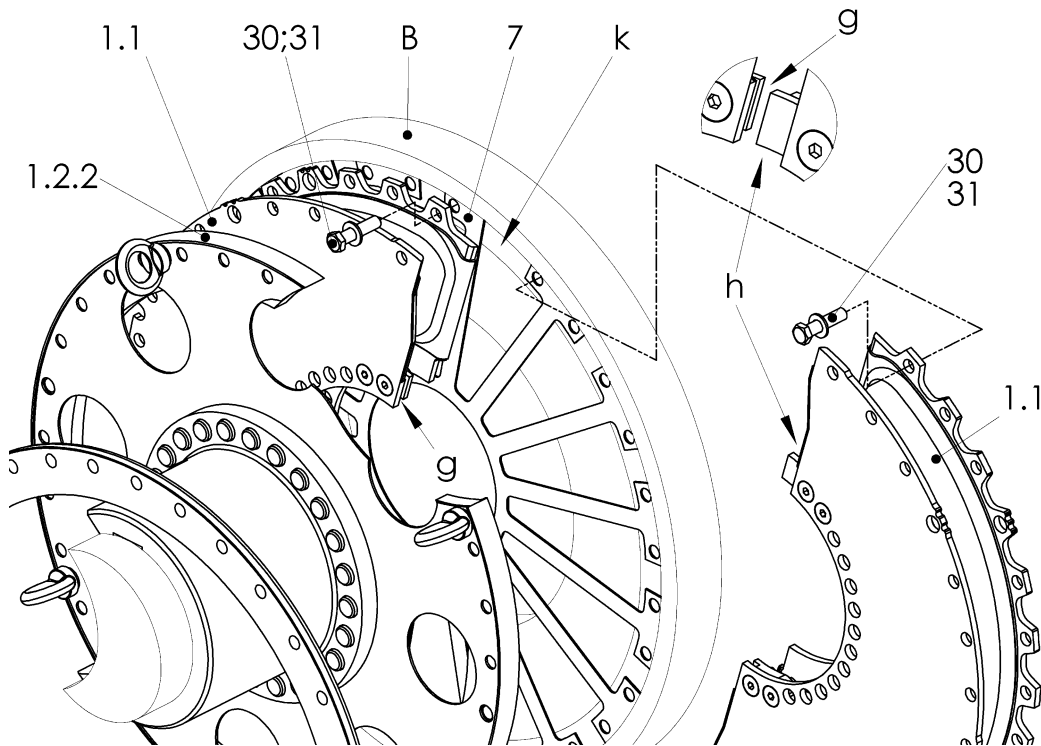


Fig. 6-7 Positioning the rubber elements

Item	Info	Designation	Remark
1.1		Rubber element	
1.2.2		Ring	
7		Ventilation plate	
30		Screw	If ordered
31		Washer	If ordered
B		Flywheel	Customer part
	g	Anti-tilt device of the first rubber element	
	h	Anti-tilt device of the second rubber element	
	k	Gap between the rubber elements	



- Position the first rubber element (1.1) between the flywheel (B) and the ring (1.2.2) and support.
- Fix the first rubber element (1.1) to the flywheel (B) using the screws (30) and washers (31). By doing so, **don't** push the rubber element (1.1) into the centring of the flywheel (B).
- Position the second rubber element (1.1) between the flywheel (B) and the ring (1.2.2).  
The claws of the anti-tilt device (g; h) must grip into each other.
- Fix the second rubber element (1.1) to the flywheel (B) using the screws (30) and the washers (31). By doing so, **don't** push the rubber element (1.1) into the centring of the flywheel (B).
- Remove the supports.

## 6.8 Screwing the rubber elements to the flywheel

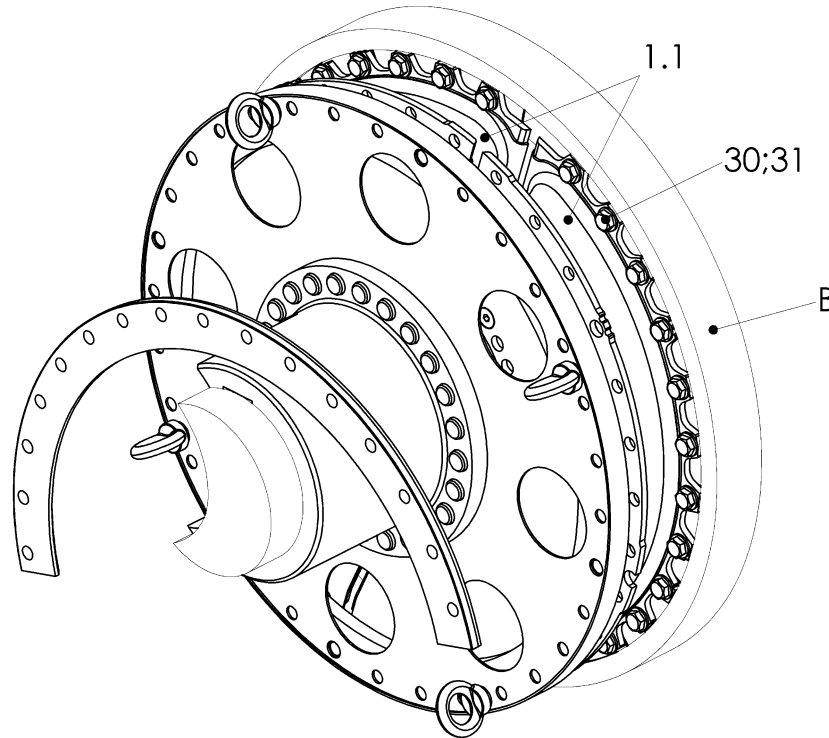


Fig. 6-8 Screwing the rubber elements to the flywheel

Item	Info	Designation	Remark
1.1		Rubber element	
30		Screw	If ordered
31		Washer	If ordered
B		Flywheel	Customer part



### IMPORTANT

Tightening torques for elements to connect couplings with customer parts could deviate from CENTA data sheet D013-013.  
Consider specifications on installation drawing.

- Together push the two rubber elements (1.1) into the centring of the flywheel (B).
- Screw the rubber elements (1.1) to the flywheel (B) using the screws (30) and the washers (31) (for the tightening torque see installation drawing).

## 6.9 Screwing the rubber elements to the membrane

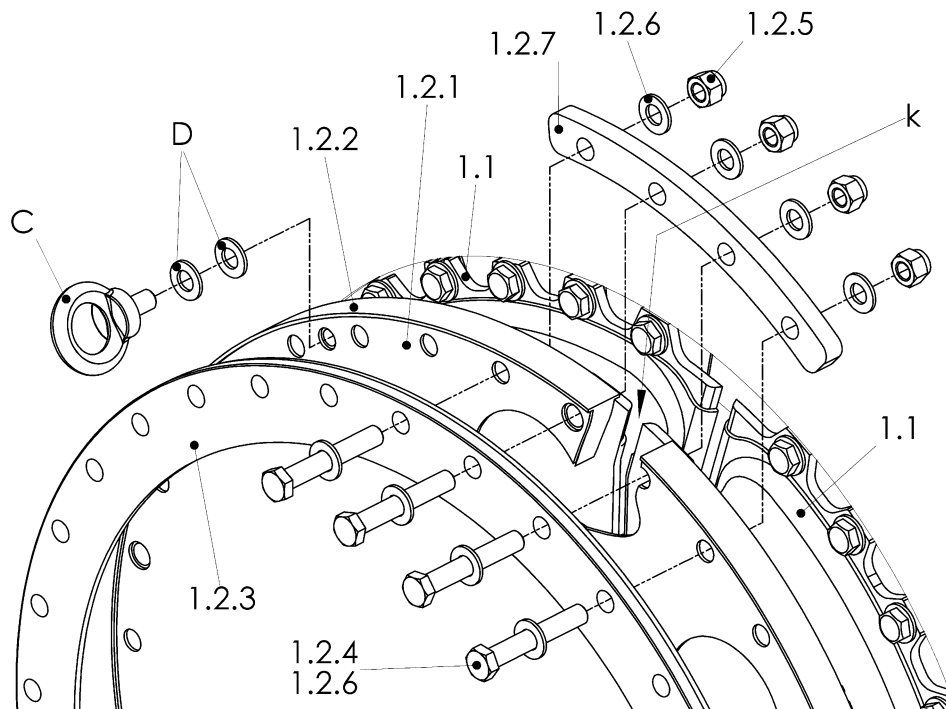


Fig. 6-9 Screwing the rubber elements to the membrane

Item	Info	Designation	Remark
1.1		Rubber element	
1.2.1		Membrane	
1.2.2		Ring	
1.2.3		Ring	
1.2.4		Screw ISO4014-10.9	
1.2.5		Nut ISO7040-10	
1.2.6		Washer ISO7089 300HV	
1.2.7		Segment	
C		Lifting eye bolt DIN580	
D		Washer	2 pc. per Lifting eye bolt; No scope of supply
	k	Gap between the rubber elements	





- Unforce the lifting eye bolts (C).
- Push the ring (1.2.2) onto the centrings of the rubber elements (1.1).
- Loosen the lifting eye bolts (C) and remove together with the washers (D).
- Push the ring (1.2.3) into the centring of the ring (1.2.2).
- Mount both segments (1.2.7) as described below:
  - At the gap (k) push two screws (1.2.4) with washers (1.2.6) per each rubber element (1.1) through the ring (1.2.3), the membrane (1.2.1), the ring (1.2.2) and the rubber element (1.1).
  - Push the segment (1.2.7) onto the screws (1.2.4) and screw using washers (1.2.6) and nuts (1.2.5).

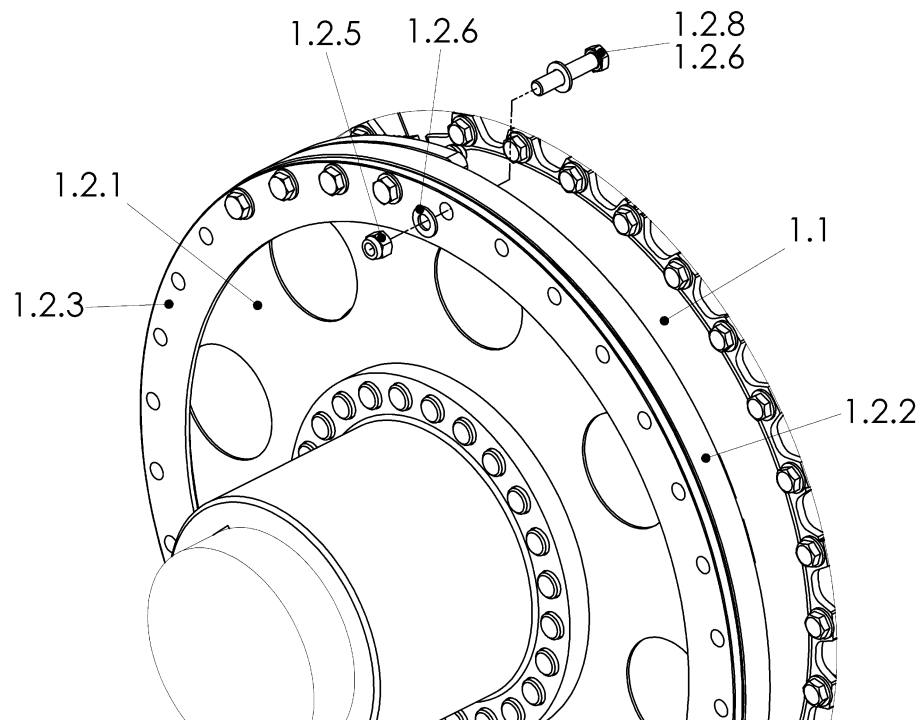


Fig. 6-10 Connecting the membrane and the rubber elements

Item	Info	Designation	Remark
1.1		Rubber element	
1.2.1		Membrane	
1.2.2		Ring	
1.2.3		Ring	
1.2.5		Nut ISO7040-10	
1.2.6		Washer ISO7089 300HV	
1.2.7		Segment	
1.2.8		Screw ISO4014-10.9	

- Screw the rubber elements (1.1), the ring (1.2.2), the membrane (1.2.1) and the ring (1.2.3) using the screws (1.2.8), the washers (1.2.6) and the nuts (1.2.5).

**6.10 After completed mounting****WARNING****Injury and material damage can occur as a result of:**

- Loose screw connections

Before commissioning, the tightening torque levels of all screws must be checked and corrected if necessary.

Before commencing long-term operation, the plant must successfully complete a test run.

## 7 Operation

### WARNING



**Injury and material damage can occur as a result of:**

- Worn coupling components

If the running noises change and/or vibrations occur turn the plant off immediately.

Determine the fault and its root cause, and remedy.  
The troubleshooting process is simplified by the table in the next chapter.  
On principle in case of a fault, an analysis of the entire plant should be performed.

### 7.1 Operating faults, root causes and remedy

Faults	Possible root causes	Remedy
Running noises or vibrations in the plant	Alignment error	<ol style="list-style-type: none"> <li>1. Switch off the plant</li> <li>2. Check alignment, correct if applicable</li> <li>3. Trial run</li> </ol>
	Loose bolts	<ol style="list-style-type: none"> <li>1. Switch off the plant</li> <li>2. Check alignment, correct if applicable</li> <li>3. Check screw torque levels and correct if necessary</li> <li>4. Trial run</li> </ol>
Membran or rubber element / rubber segment damaged	Alignment error	<ol style="list-style-type: none"> <li>1. Switch off the plant</li> <li>2. Replace defective parts</li> <li>3. Check alignment, correct if applicable</li> <li>4. Trial run</li> </ol>
	Inadmissibly high torque	<ol style="list-style-type: none"> <li>1. Switch off the plant</li> <li>2. Replace defective parts</li> <li>3. Check alignment, correct if applicable</li> <li>4. Trial run</li> </ol>

*Table 7-1 Troubleshooting table*

In case of uncertainty or if you have questions, please contact our head office (address see chapter 1).

### 7.2 Admissible overall misalignment of the coupling

The overall misalignment values can be found in the catalogue.

## 8 Care and maintenance

### WARNING

**Injuries can occur as a result of:**

- Contact with rotating parts

Before starting work at the coupling, switch off the plant and secure against unintentional start-up.

The coupling requires low maintenance. It is possible to perform a visual inspection during the regular scheduled maintenance intervals for the complete unit. Every 12 month a visual inspection is strictly required.

### 8.1 Work to be performed

#### 8.1.1 Cleaning the coupling

- Remove any loose dirt from the coupling.

#### 8.1.2 Visual inspection of the coupling

- Inspect the coupling for cracks, chips or missing parts.
- Replace faulty and missing parts.

#### 8.1.3 Visual inspection of the rubber elements / rubber segments



### IMPORTANT

Exchange the rubber elements / rubber segments in the event that:

- The wear specifications given in W00-002 are exceeded

- Assess the rubber elements / rubber segments as described in CENTA guidelines W00-002.

#### 8.1.4 Inspection of the screw connections

- Check the tightening torque levels of all screws and if necessary, correct.

### 8.2 Replacing defective parts

- Remove the coupling as described in chapter 9.
- Replace wearing parts.
- Mount the coupling as described in chapter 6.

## 9 Dismantling

### 9.1 General dismantling instructions

Any work method which impairs the safety of the coupling is prohibited.  
The user undertakes to notify the manufacturer immediately of any changes occurring at the coupling which could impair safety (address see chapter 1).



#### **IMPORTANT**

The coupling is dismantled in reverse order to the assembly process.  
Please refer to the illustrations in chapter 6.

#### **WARNING**



##### **Injuries can occur as a result of:**

- Contact with rotating parts

Before starting work at the coupling, switch off the plant and secure against unintentional start-up.

#### **WARNING**



##### **Injury and material damage can occur as a result of:**

- Dismantling of the coupling in the wrong sequence

Only ever dismantle the coupling in the described sequence.

#### **WARNING**



##### **Injury and material damage can occur as a result of:**

- Falling coupling components

Secure coupling components against falling to the floor.

#### **CAUTION**



##### **Material damage to coupling components can occur as a result of:**

- Contact with sharp-edged objects

Protect coupling components for transportation.

Only hoist coupling components with nylon belts or ropes.

Always cushion parts when supporting them from below.



#### **IMPORTANT**

Use suitable lifting devices for dismantling.

## 9.2 Disconnecting the rubber elements from the membrane

### See Fig. 6-10:

- Loosen the screws (1.2.8) and the nuts (1.2.5) of the connection membrane (1.2.1), rings (1.2.2 and 1.2.3) and rubber elements (1.1) and remove with the washers (1.2.6).

### See Fig. 6-9:

- Loosen the nuts (1.2.5) at gap (k), and remove with the screws (1.2.4), the washers (1.2.6) and the segments (1.2.7).

### See Fig. 6-10:

- Pull the ring (1.2.3) out of the centrings of ring (1.2.2) and place it on the hub (3).

### See Fig. 6-9:

- Prepare the lifting eye bolts (C): Push two washers (D) onto the thread of each lifting eye bolt.
- Screw the membrane (1.2.1) to the ring (1.2.2) using the lifting eye bolts (C; 4x90°).

### See Fig. 6-6:

- Pull the membrane (1.2.1) and the ring (1.2.2) approx. 10 -15 mm towards the illustrated direction (F) using the lifting eye bolts (C) and keep this position.

## 9.3 Dismantling the rubber elements from the flywheel

### See Fig. 6-8:

- Loosen the screws (30) of the connection rubber elements (1.1) and flywheel (B) and unscrew by approx. 20 mm.
- Together pull the two rubber elements (1.1) out of the centring of the flywheel (B).
  - Secure the first rubber element (1.1) against falling to floor.
  - Loosen the screws (30) of the connection first rubber element (1.1) and flywheel (B) and remove with the washers (31).
  - Remove the first rubber element (1.1).
- Repeat the dismantling section above in order to remove the second rubber element (1.1).

## 9.4 Removing the ventilation plate

### See Fig. 6-5:

- Pull the ventilation plate (7) out of the centring of the flywheel (B) and remove.

## **9.5 Dismantling the ring from the membrane**

### **See Fig. 6-4:**

- Unforce the lifting eye bolts (C).
- Loosen the lifting eye bolts (C) of the connection membrane (1.2.1) and ring (1.2.2) and remove with the washers (D).
- Pull the ring (1.2.2) off the centring of the membrane (1.2.1) and remove.

## **9.6 Dismantling the membrane**

### **See Fig. 6-3:**

- Loosen the screws (8) of the connection ring (2), membrane (1.2.1) and hub (3) and remove.
- Pull the ring (2) off the centring of the hub (3) and remove.
- Pull the membrane (1.2.1) off the centring of the hub (3) and remove.
- Remove the ring (1.2.3) from the hub (3).

## **9.7 Dismantling the hub (if necessary)**

- Dismantle the hub as appropriate for the type supplied.
  - Dismantling the hub with feather key, see chapter 9.7.1 .
  - Dismantling the hub with conical oil interference fit, see chapter 9.7.2 .





### **9.7.1 Dismantling the hub with feather key**

#### **See Fig. 6-1:**

- Remove the hub (3) from the shaft (A).



**9.7.2 Dismantling the hub with conical oil interference fit****See Fig. 6-2:**

<b>WARNING</b>	
	<p><b>Injury and material damage can occur as a result of:</b></p> <ul style="list-style-type: none"><li>▪ Non-compliance with the operating instructions for the hydraulic pumps</li></ul> <p>Before carrying out work with the hydraulic pumps, do not fail to read their operating instructions. Only ever work with hydraulic pumps as described in their operating instructions.</p>
<b>WARNING</b>	
	<p><b>Injury and material damage can occur as a result of:</b></p> <ul style="list-style-type: none"><li>▪ Hydraulic fluid spraying out</li></ul> <p>Use protective goggles.</p>
<b>WARNING</b>	
	<p><b>Injuries and material damages can occur by:</b></p> <ul style="list-style-type: none"><li>▪ Suddenly loosening hubs</li></ul> <p>Secure the hub with a hydraulic tool against sudden axial loosening.</p>
 <b>IMPORTANT</b>	
<p>We recommend the following mounting fluids:</p> <ul style="list-style-type: none"><li>• For mounting: Oil with a viscosity 300 mm<sup>2</sup>/s at 20°C, e.g. SKF LHM300</li><li>• For dismantling: Oil with a viscosity 900 mm<sup>2</sup>/s at 20°C, e.g. SKF LHDF900</li></ul>	

- Remove the screw plug (19) from the hub (3).
- Connect the pump for expanding the hub (3) to the thread G $\frac{1}{4}$  or G $\frac{3}{4}$  (c).
- Screw the pump for holding the hub to the shaft (A).
- Build up the oil pressure for holding the hub.

**WARNING****Material damage can occur as a result of:**

- Too fast increase of the expanding pressure in the hub
- The increase of the expanding pressure may not exceed **35 bar/minute**.

- Slowly build up the oil pressure for expanding the hub ( **$p_{\max} = 1500 \text{ bar}$** ).
- Slowly reduce the oil pressure for holding the hub.
- Slowly reduce the oil pressure for expanding the hub.
- Repeat the above mounting section until the hub is completely released from the shaft.
- Remove the pump for holding the hub from the shaft (A).
- Remove the pump for expanding the hub from the hub (3).
- Turn the hub (3) allow the oil to run out of the thread G $\frac{1}{4}$  or G $\frac{3}{4}$  (c) and dispose of it correctly.
- Screw the screw plug (19) into the hub (3).

**9.8 Reassembling the coupling**

- Reassemble the coupling as described in chapter 6.

**10 Wearing and spare parts****WARNING****Injury and material damage can occur as a result of:**

- Mounting and/or utilization of non-original CENTA parts
- Never use parts from other manufacturers.

A stock of the most important wearing and spare parts is the most important condition to ensure that the coupling is functional and ready for operation at all times.

We only provide a warranty for CENTA original parts.

Wearing parts of this coupling:

- Rubber element
- Membrane

When exchanging, all screw connections must be renewed. These must be ordered separately.

When ordering a spare, specify:

- Order no.
- Coupling order no.
- Drawing no.

## 11 Annex

### 11.1 CENTA data sheet D013-013 (lubricated screw connections)

**Validity:**

For all non-dynamically stressed screw connections with **lubricated** shank bolts in accordance with ISO 4014, ISO 4017 and ISO 4762 (DIN 912) with metric standard thread in accordance with DIN ISO 262, unless other specifications are given on CENTA documents.

**Preparation of parts that are to be screwed together:**

The joining areas must be free of dirt, preservatives and lubricants.

**Preparation of screws that ARE NOT secured with liquid screw locking medium:**

Give the screws extra lubrication with motor oil under the screw head and in the thread.

**Preparation of screws that ARE secured with liquid screw locking medium:**

Give the screws extra lubrication with motor oil under the screw head. Remove all grease from the thread.

**Screw tightening method:**

Screw in (by hand with torque wrench).

d	Thread size		d	Thread size	
	Strength class	Tightening torques		Strength class	Tightening torques
		[Nm] ±5%			[in lbs] ±5%
<b>M6</b>	8.8	9	<b>M22</b>	8.8	470
	10.9	13		10.9	670
	12.9	15		12.9	780
<b>M8</b>	8.8	21	<b>M24</b>	8.8	600
	10.9	30		10.9	850
	12.9	35		12.9	1000
<b>M10</b>	8.8	41	<b>M27</b>	8.8	750
	10.9	60		10.9	1070
	12.9	71		12.9	1250
<b>M12</b>	8.8	71	<b>M30</b>	8.8	1000
	10.9	104		10.9	1450
	12.9	121		12.9	1700
<b>M14</b>	8.8	113	<b>M33</b>	8.8	1400
	10.9	165		10.9	1950
	12.9	195		12.9	2300
<b>M16</b>	8.8	170	<b>M36</b>	8.8	1750
	10.9	250		10.9	2500
	12.9	300		12.9	3000
<b>M18</b>	8.8	245	<b>M39</b>	8.8	2300
	10.9	350		10.9	3300
	12.9	410		12.9	3800
<b>M20</b>	8.8	350			
	10.9	490			
	12.9	580			



**11.2 CENTA data sheet D040-900**

**Declaration of incorporation according to the EC Machinery Directive 2006/42/EC, Appendix II B**

Manufacturer:

**CENTA Antriebe  
Kirschey GmbH**

Bergische Strasse 7  
42781 Haan / GERMANY

Contact:

Phone +49-2129-912-0

Fax +49-2129-2790

centa@centa.de

www.centa.info

We herewith declare that the **incomplete** machine

Product: Highly elastic coupling CENTAX-G200

Model / series code: CX-G200 / 040G

Installation size: 276...294

Design: all

Serial number: according to shipping documents, if applicable

- provided this is possible as far as the scope of supply is concerned - complies with the following basic requirements of the **Machinery Directive 2006/42/EC** Appendix I, subchapters 1.1.2, 1.1.3, 1.1.5, 1.3.2, 1.3.3, 1.3.4 und 1.5.4.

In addition, we declare that the special technical documents for this incomplete machine were compiled according to Appendix VII Part B and undertake to forward these to the market monitoring authorities by request via our "Documentation Department".

Commissioning of the incomplete machine is interdicted until the incomplete machine has been incorporated in a machine and the latter complies with the provisions of the EC Machinery Directive and the EC Declaration of Conformity according to Appendix II A is on hand.

The declaration is invalidated by every modification to the delivered parts.

Authorised representative for the compilation of the relevant technical documents:

*i.A. J. Anderseck*

by order of Gunnar Anderseck  
(Authorised Person Documentation)

Declaration of incorporation was issued:

*i.v. J. Exner*

by proxy Dipl.-Ing. Jochen Exner  
(Design Management)

Haan, 08.12.2009